REMARKS

This amendment is in response to the Notice of Appeal filed 4/14/05, and further to the Advisory Action of 5/04/05. Applicants wish to note that the Advisory Action fails to identify, in section 7, if the after-final response has been officially entered. Hence, applicants have included arguments presented in the after-final response along with the current request for RCE. Applicants have amended claims 1 and 8 for clarification purposes without adding new matter.

OVERVIEW OF CLAIMED INVENTION

The presently claimed invention provides for a network interconnection apparatus for interconnecting a LAN and an ATM network to perform communications, wherein the apparatus comprises a routing information managing means, statistical information managing means, QoS setting means, QoS guarantee determining means, QoS adjusting means, and call control means. The routing information managing means manages routing information of the ATM network. The statistical information managing means manages statistical information of a connection between a LAN terminal and another LAN terminal, wherein the statistical information includes information on traffic of two or more connections which may be established between a LAN terminal and another LAN terminal. The QoS setting means sets QoS for the ATM network which the ATM network ought to guarantee, based on measured statistics managed by the statistical information managing means, wherein the QoS includes information elements of a call connection request message. The QoS guarantee determining means determines whether or not the QoS which the ATM network ought to guarantee, as determined by the QoS setting means, can be guaranteed based on the routing information. The QoS adjusting means adjusts the QoS so that the QoS can be guaranteed, if it is judged that the QoS cannot be guaranteed, and the call

connection control means performs call connection according to the QoS which can be guaranteed.

The presently claimed invention also provides for a network interconnection method to interconnect a LAN and an ATM network to perform communications, wherein the method comprises the steps of: (a) managing routing information of the ATM network; (b) managing statistical information on traffic of a connection between a LAN terminal and another LAN terminal, the statistical information including information on traffic between two or more connections which may be established between a LAN terminal and another LAN terminal; (c) setting QoS for said two or more connections the ATM network which the ATM network ought to guarantee, based on measured statistical information from the managing statistical information step, the QoS including information elements of a call connection request message; (d) determining based on the routing information whether or not the set QoS which the ATM network ought to guarantee, as set in the setting step, can be guaranteed; (e) adjusting the QoS so that the QoS can be guaranteed, if it is judged that the QoS cannot be guaranteed; and (f) performing call connection according to the QoS which can be guaranteed.

REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 1, 5, 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ellington, Jr. et al. (USP 6,175,569) in view of Law et al. (USP 6,330,602). To be properly rejected under U.S.C. §103(a), each and every element of the claims must be addressed through known prior art or be recognized as an obvious variation thereof. Applicants contend that the combination of the Ellington and Law references fail to provide many of the limitations of applicants' pending claims.

Ellington et al. teach an interface between a Local Area Network (LAN) station and an Asynchronous Transfer Mode (ATM) network for establishing a connection having a specified Quality of Service (QoS), wherein the setup comprises a buffer, a frame reading logic, a mapping logic, and a connection setup logic. In the disclosed setup, the buffer is used to store a LAN frame received from the LAN station, wherein the frame has a priority field in which one of a set of known frame priority values is stored. The frame reading logic extracts a value stored in the priority field of a frame and the mapping logic responds to an extracted value and selects an ATM QoS from a set of known ATM QoS. Finally, the connection-setup logic responds to the selected ATM QoS to initiate establishment of a virtual connection through the ATM network, wherein the virtual connection has parameters appropriate for the selected ATM QoS.

Law et al. teach a client-server environment of a telecommunications network, where information resources are replicated among a plurality of servers and a plurality of clients have access to any one or more of the servers for desired information resources. The method, as taught by Law et al., comprises the steps of: (a) performing a transaction between one of the plurality of clients and the plurality of servers by way of an intermediary function called a depot, each transaction comprising one or more information transfer sessions; and (b) switching at the depot the plurality of sessions among the plurality of servers so that during each session transfer of the information resources is performed between one client server pair.

Applicants contend that the method of Law et al. manages the volume of traffic and not the character of traffic. That is, even if a burst data transfer is performed or a data transfer rate is constant, the character of traffic is ignored (according to Law et al.'s method) and only the

bandwidth is calculated. Accordingly, a statistical multiplexing effect on an ATM network which will be obtained by using VBR services cannot be obtained. The method of Law et al. expends bandwidth for CBR services, and thereby a great division loss occurs. When the number of connection increases, bandwidth necessary for providing CBR services cannot be secured and it becomes difficult to perform communication itself.

In stark contrast, in the present invention, QoS which an ATM network must guarantee is determined according to the character of traffic. Necessary bandwidth is calculated and network resources are used effectively. Therefore, applicants contend that the method disclosed in Law et al. cannot control QoS according to traffic for many connections.

Regarding independent claim 1 and 8, the examiner, on pages 3-4 of the office action of 10/14/2004, correctly states that the Ellington reference fails to provide the limitation of managing statistical information between a LAN terminal and another LAN terminal and the limitation of setting QoS, which the ATM network ought to guarantee, based on such measured statistics. Applicants, however, respectfully disagree that such limitation are remedied by the teachings of the Law reference.

Specifically, the examiner equates, on page 4 of the office action, depot 54 of the Law reference (see figure 5) with the limitation of managing statistical information between a LAN terminal and another LAN terminal (a limitation of both independent claims 1 and 8). The examiner further references column 5, lines 21+ of the Law reference as teaching how the depot 54 performs the above-limitation. A closer reading of the citations and the Law reference in its

entirely merely suggests that the depot 54 "distributes [the] TCP sessions among multiple servers based on the server load balancing criteria" (see abstract and column 4, lines 52-54).

Column 5, lines 10-41 of the Law reference further clarifies the functionality of the depot 54 as: (1) inspecting all packets in both directions at IP and TCP levels; (2) choosing a server based on load balancing criteria for a new TCP session; (3) forwarding TCP packets for existing sessions to the already chosen server; (4) forwarding TCP packets from servers to clients; (5) cleaning up the mapping entry when TCP sessions end; and (6) watch for and handle anomalous TCP packets. Conspicuously *absent* in the citations and the entire Law reference is *any* teaching of managing statistical information of a connection between a LAN terminal and another LAN terminal. The only mention of maintaining statistics in depot 54 comes in column 5 of the Law reference where it references the maintenance of "server statistics". The examiner appears to heavily rely on such citations of "server statistics" as teaching the limitation of managing statistical information between a LAN terminal and another LAN terminal. However, applicants wish to respectfully note that a server is *not* the same as a client, such as a LAN terminal. Applicants also wish to respectfully note that periodically "probing" a server to obtain statistical information is *not* the same as managing statistical information of a connection between a LAN terminal and another LAN terminal in a LAN network. Applicants also wish to note that there is neither an implicit or explicit teaching in the Law reference for maintaining information on traffic between two or more connections between a LAN terminal and another LAN terminal.

Hence, applicants contend that examiner erroneously equated depot 54 of Law et al. with the applicants' limitation of managing statistical information between a LAN terminal and another LAN terminal.

If the examiner feels that depot 54 of Law et al. still remedies this limitation, applicants respectfully remind the examiner that it is the duty of the examiner to specifically point out each and every limitation of a claim being rejected as per §1.104(c)(2) of Title 37 of the Code of Federal Regulations and section 707 of the M.P.E.P., which explicitly states that "the particular part relied on must be designated" and "the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified."

Building on the above-mentioned erroneous equation of the depot 54, the examiner further contends that the Law reference also remedies the limitation of setting QoS based on measured statistical information. Applicants respectfully contend that the examiner's failure to show the management of statistical information renders this argument moot. Hence, applicants maintain that there is no teaching or suggestion, either in the Law reference or the combination of Law and Ellington references, for setting QoS based on statistical information of a connection between a LAN terminal and another LAN terminal. Further, applicants also contend that the Law reference, either by itself or in combination with the Ellington et al. reference, fails to teach or render obvious the limitation of setting QoS based on traffic information between two or more connections between a LAN terminal and another LAN terminal.

If the examiner feels that the Law et al. reference still remedies the limitation of setting QoS based on statistical information between a LAN terminal and another LAN terminal and, more specifically, the limitation of setting QoS based on traffic information between two or more connections between a LAN terminal and another LAN terminal, applicants respectfully remind the examiner that it is the duty of the examiner to specifically point out each and every limitation

of a claim being rejected as per §1.104(c)(2) of Title 37 of the Code of Federal Regulations and section 707 of the M.P.E.P., which explicitly states that "the particular part relied on must be designated" and "the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified."

Also, as set forth in applicants claims, statistical information being managed includes traffic of two or more connections which may be established between LAN terminals and QoS is set for the two or more connections based on statistical information, wherein the QoS includes information elements of a call connection request message, a limitation that is neither anticipated nor rendered obvious by either the Ellington or the Law references.

Since QoS is previously set for two or more connections which may be established, based on the traffic of a LAN, a connection with an optimum QoS can be immediately established as a connection within an ATM network based on the traffic of the LAN varying all the time. This can realize efficient interwork control (see page 31, lines 12-19 of the applicants' specification).

The above-mentioned arguments for independent claim 1 substantially apply to dependent claims 2-7 as they inherit all the limitations of the claim from which they depend.

The Ellesson et al. reference, cited against claims 2-4 and 6 discloses detecting congestion within a network and an edge device alleviating the impact of congestion (col. 5, lines 55-65) as well as enabling optimum allocation of network resources and minimizing the need to provide excess capacity (col. 2, lines 38-41). It should be noted that claim 3 does not recite simply determining a transmission rate based on an average traffic volume. Claim 3 sets forth

determining whether a transmission rate is made constant or variable, by comparing an increased value obtained by adding α to an average traffic volume with a maximum traffic volume. Since α is a margin, a rate of service category can be determined as flexible in response to varying traffic.

Hence, applicants contend that Ellesson et al. merely disclose a reduction of network congestion and fails to disclose or suggest the features of the present invention that, when service category is selected as QoS, a constant transmission rate is selected as the service category if a maximum traffic volume is smaller that an augmented average traffic volume and a variable transmission rate is selected as the service category if the maximum traffic volume is greater than the augmented average traffic volume.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicants presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact applicants' representative at the below number.

Respectfully submitted,

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